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EXAMINER	
BETIT, JACOB F	

ART UNIT	PAPER NUMBER
2169	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/693,158	PAL ET AL.	
	Examiner	Art Unit	
	Jacob F. Bétit	2169	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 May 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-9,11-14,16 and 17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-9,11-14,16 and 17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Remarks

1. In response to communications filed on 6 May 2009, claims 12-14, 16, and 17 have been amended per the applicant's request. Claims 1-3, 5-9, 11-14, 16, and 17 are presently pending in the application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-3, 5-9, 11-14, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chau et al. (U.S. patent No. 6,721,727 B2) in view of Cheng et al. (U.S. patent No. 6,366,934 B1).

As to claim 1, Chau et al. teaches a method for use in a database system in which a user defined type is defined by a class in managed code and comprises a plurality of fields (see column 7, lines 8-12, where it is known in the art that user defined types are classes that are managed from within the DBMS), each field having a respective data type, the method comprising:

defining another class in managed code that represents an XML data type (see column 7, lines 27-42 and see column 8, lines 14-21);

defining at least one of the plurality of fields of the user defined type as having the XML data type and associating said at least one field of the instance of the user defined type with an XML Schema that defines a content model for the XML data in the field (see column 7, lines 52-65; column 9, lines 1-9; and column 83, lines 55-60, where it is shown that a reference to a DTD (XML schema) is made in a DAD);

instantiating the class defining the user defined type to create an object of the user defined type, wherein the object holds XML data in said at least one field (see column 7, lines 43-51, an object is created and stored in the relational table each time an XML document is stored in the relational table); and

persisting the object within a database store (see column 6, lines 14-23).

Chau et al. does not distinctly disclose less than all of the fields of the user defined type having the XML data type; defining at least one other of said plurality of fields as having a different data type; and the object holding data of said different data type in at least one other field.

Cheng et al. teaches this, see column 9, line 57 through column 10, line 21. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Chau et al. to include the teachings of Cheng et al. because these teachings would allow the user to add additional attributes to user defined types resulting in greater flexibility in the data that is ultimately stored in the database.

As to claim 2, Chau et al. as modified, teaches wherein the managed code class that represents the XML data type comprises at least one constructor (see Chau et al., column 8, lines

36-41 and 57-59) and at least one method that returns an object through which the XML data in said at least one field of the persisted object of the user defined type can be retrieved (see Chau et al., column 8, lines 36-41 and 65-66).

As to claim 3, Chau et al. teaches further comprising adding a method to the managed code class definition of the user defined type to implement a behavior on said at least one field of the user defined type (see Chau et al., column 8, lines 14-21).

As to claim 5, Chau et al. teaches wherein said associating step comprises annotating the managed code class definition of the user defined type with an attribute that identifies the XML Schema on a server that hosts the database store (see Chau et al., column 9, lines 1-9 and column 83, lines 5-60).

As to claim 6, Chau et al. teaches further comprising at least one of the steps of: querying the object persisted within the database store; and modifying the object persisted within the database store (see Chau et al., column 8, lines 60-64 and see column 44, lines 37-44).

As to claim 7, Chau et al. teaches a system comprising:

a runtime that provides managed code execution (see column 7, lines 8-12), the runtime comprising:

a class in managed code that represents an XML data type (see column 7, lines 27-42 and see column 8, lines 14-21); and

another class in managed code that defines a user defined type, the class definition for the user defined type comprising a plurality of fields, each field having a respective data type, at least one of said plurality of fields being defined as having the XML data type (see column 7, lines 52-65);

wherein said managed code class that defines the user defined type further comprises an association between said at least one field of the instance of the user defined type that contains XML data and an XML Schema that defines a content model for the XML data in the field (see column 9, lines 1-9, and see column 83, lines 55-60); and

a database store that instantiates the class defining the user defined type to create an object of the user defined type and that stores the object, whereby said at least one field of the stored object contains XML data (see column 6, lines 14-23 and see column 7, lines 43-51).

Chau et al. does not distinctly disclose less than all of the plurality of fields being defined has having the XML data type; at least one other of said plurality of fields being defined as having a different data type; and said at least one other field of the object contains data of said different data type.

Cheng et al. teaches this, see column 9, line 57 through column 10, line 21. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Chau et al. to include the teachings of Cheng et al. because these teachings would allow the user to add additional attributes to user defined types resulting in greater flexibility in the data that is ultimately stored in the database.

As to claim 8, Chau et al. as modified, teaches wherein the managed code class that represents the XML data type comprises at least one constructor (see Chau et al., column 8, lines 36-41 and 57-59) and at least one method that returns an object through which the XML data in the field of the stored object of the user defined type can be retrieved (see Chau et al., column 8, lines 36-41 and 65-66).

As to claim 9, Chau et al. as modified, teaches wherein the managed code class that defines the user defined type further comprises a method that implements behavior on the field of the instance of the user defined type that contains XML data (see Chau et al., column 8, lines 14-21).

As to claim 11, Chau et al. as modified, teaches wherein the association comprises an attribute applied to the field within the managed code class that defines the user defined type, the attribute identifying the XML Schema on a server that hosts the database store (see Chau et al., column 9, lines 1-9 and column 83, lines 5-60).

As to claim 12, Chau et al. teaches a computer readable medium having program code stored thereon, said program code causing a computer to:

define a first class in managed code that represents an XML data type (see column 7, lines 27-42 and see column 8, lines 14-21);

define a second class in managed code that defines a user defined type, the second class comprising a plurality of fields, each field having a respective data type, at least one, but less

than all, of the fields within the second class being defined as having the XML data type and being associated with an XML Schema that defines a content model for the XML data in the field, and at least one other of said plurality of fields being defined as having a different data type (see column 7, lines 52-65; see column 9, lines 1-9; and see column 83, lines 55-60).

instantiate the class defining the user defined type to create an object of the user defined type, wherein said at least one field of the object holds XML data and said at least one other field of the object holds data of said different data type (see column 7, lines 43-51); and

persist the object within a database store (see column 6, lines 14-23).

Cheng et al. teaches this, see column 9, line 57 through column 10, line 21. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Chau et al. to include the teachings of Cheng et al. because these teachings would allow the user to add additional attributes to user defined types resulting in greater flexibility in the data that is ultimately stored in the database.

As to claim 13, Chau et al. as modified, teaches wherein the first class comprises at least one constructor (see Chau et al., column 8, lines 36-41 and 57-59)and at least one method that returns an object through which the XML data in the field of the persisted object of the user defined type can be retrieved (see Chau et al., column 8, lines 36-41 and 65-66).

As to claim 14, Chau et al. as modified, teaches wherein the second class further comprises a method that implements behavior on said at least one field of the user defined type

(see Chau et al., column 8, lines 14-21).

As to claim 16, Chau et al. as modified, teaches wherein said at least one field is associated with said XML Schema by an annotation to the definition of said at least one field in the second class of an attribute that identifies the XML Schema on a server that hosts the database store (see Chau et al., column 9, lines 1-9 and column 83, lines 5-60).

As to claim 17, Chau et al. as modified, teaches wherein said program code further causes the computer to: query the object persisted within the database store; and modify the object persisted within the database store (see Chau et al., column 8, lines 60-64 and see column 44, lines 37-44).

Response to Arguments

4. Applicant's arguments filed 6 May 2009 have been fully considered but they are not persuasive.

In response to the applicant's arguments that Cheng et al. does not disclose "defining at least one, but less than all, of the plurality of fields of the user defined type as having XML data type", the arguments have been considered, but are not deemed persuasive. Cheng et al. teaches creating a class that stores XML data. The class includes 3 integer fields that are not XML data and a variable character field that is not XML data. The clob (character large object) then stores the content or the actual XML data. Therefore, while Cheng et al. teaches storing XML data in the class, integers are certainly different than the textual data that is stored in an XML data file.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob F. Bétit whose telephone number is (571)272-4075. The examiner can normally be reached on Monday through Friday 9:30 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tony Mahmoudi can be reached on (571) 272-4078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

/Tony Mahmoudi/
Supervisory Patent Examiner, Art Unit 2169

jfb
20 Jul 2009